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UNION CARBIDE CORPORATION P O BOX 579 4625 ROYAL AVE NIAGARA FALLS N Y 14302  
METALS DIVISION

April 4, 1984

Mr. Robert F. Kelly, Senior Radiologist  
Occupational Safety & Health  
State of New York  
Department of Labor  
65 Court Street  
Buffalo, NY 14202

Subject: Radioactive Materials License 950-0139

Dear Mr. Kelly:

Relatively high concentrations of radionuclides in the Th232 and U238 decay chains exist in the ground cover of portions of the Technology area, Union Carbide Corporation, Royal Avenue, Niagara Falls. The thorium indicates that not all of the material came from operations related to the Manhattan Engineer District (MED)/Atomic Energy Commission (AEC) on this site which was limited to production of uranium metal from UF<sub>4</sub> (green salt). However, because uranium occurs in significant amounts, contamination due to MED/AEC activities cannot be absolutely eliminated as a possible contributing source. The Manhattan District "Area" plant was contiguous with the site containing the contaminated soil. The location of the highest level of activity along railroad tracks would make MED/AEC operations an improbable source of most of the contamination. It is more likely that the bulk of the contaminated soil came from spillage of columbium bearing ores during rail unloading procedures and is restricted to relatively large pieces of insoluble ore mixed with the top 8 to 12 inches of ground cover. It is not deeply or widely disseminated. These operations were terminated 25 years ago so the low level ore contamination has existed for a prolonged period and was not identified when the AEC surveyed and decommissioned the "Area" plant in November 1953; perhaps because the survey was primarily limited to the building and not the environs. Nevertheless, the close proximity of the site to known uranium operations prevented identification of the problem until December 1980.

We are out of compliance with our New York State Radioactive Material License as you are aware. The area in question is fenced on three sides, is used for storage, receives no day-to-day personnel traffic and the railroad tracks on the site have not been used for at least five years.

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Work has begun to make the area accessible for decontamination. Main obstacles are three flat bed railroad cars loaded with large furnace shells and copper bus, 5' x 5' x 5' steel skip hoppers, ladles, furnace parts, electrode stubs and masses of electric furnace debris. These items are Elkem property and are being moved.

Our plan is to perform the following work:

Phase I - To be completed by July 31, 1984.

- 1 Clean up area for equipment access.
- 2 Removal of railroad tracks.
- 3 Remove 6800 ft<sup>3</sup> of contaminated top soils and store on a non-traffic area of the property with plastic liner and cover.
- 4 Fence temporary storage area for restricted access
5. Replace railroad tracks and backfill.


Estimated cost of Phase I is \$130,000.

Phase II

Load soil debris in approved containers, ship and bury at approved repository. We already have experience for this work in shipments from Marietta, Ohio to Barnwell, South Carolina.

Completion of shipments will take a minimum of one year after scheduling and cost \$270,000.

Very truly yours,



R. J. Klotzbach  
Director of Technology

cc: Mr. W. C. Thurber  
Mr. F. T. Temple

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